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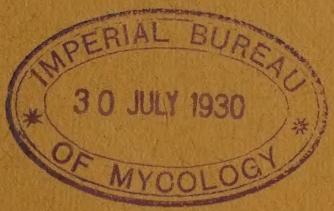

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INTERNATIONAL BULLETIN OF PLANT PROTECTION

DISCOVERIES AND CURRENT EVENTS *

Algeria : The Moroccan Locust (1).

Hatching of Moroccan locusts (*Dociostaurus moroccanus*) has been reported during March 1930 on breeding grounds noted last August and September.

The ordinary control measures were immediately undertaken, such as cresyl spraying, burning on alfa, barriers of zinc plates, ' melhafas ', and are giving good results. Intensive use of poison bait will be carried on continuously.

DEPARTMENT OF ALGIERS. Mixed Commune of Sidi-Aïssa. — The first hatching took place at Djebel Amrès on March 12 and then became general.

Mixed Commune of Boghari. — Hatchings since the 21st at the douars of Anteur, Oum-el-Djellil, Boughzoul, Aziz and Oussera.

Mixed Commune of Chellala. — Hatching began on the 21st in the douar of Oussera.

Mixed Commune of Aumale. — Some hatching on the 19th in the douar of Taguedid.

Mixed Commune of Aïn-Boucif. — Hatching occurred on the 28th in the douar of Tirghane, then at Birine.

Mixed Commune of Aïn-Bessem. — Some hatching on the 31st in the douar of Oued-Berdi.

DEPARTMENT OF ORAN. Mixed Commune of Frenda. — Slight hatching on the 15th in the douar of Ben-Halima.

DEPARTMENT OF CONSTANTINE. Mixed Commune of Aïn-Touta. — The first hatching was reported on March 4 in the douar of Branis, then at El-Outaya and then became general.

Mixed Commune of M'sila. — The first hatching in the douar of Metarfa on the 10th. Further hatching then in the douars of Djorf, M'sila, Ouled-Mansour, Beni-Ilmane, Kherabcha, Ouled-Addi, Melouza and Ouitlène.

Mixed Commune of Belezma. — The first hatching took place on the 7th in the douar of Ras-el-Aïoun, then became general in all the affected douars.

Mixed Commune of Barika. — The first hatching in the Magra douar, then in the douars of Ouled-si-Slimane, Tilatou, Bitam, Gosbate, Djezzar and Berhoum.

Mixed Commune of Maadid. — Hatching was reported on March 10 in the douars of Mekarta, Maadid and Ksour.

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* In this, as in the next chapter, the countries are arranged in French alphabetical order.

(1) Communication from the Gouvernement Général de l'Algérie to the International Institute of Agriculture.

Mixed Commune of Aïn-el-Ksar. — The first hatching on the 16th at Pasteur.

Mixed Commune of Aurès. — Hatching began in the douars of Menaa and Bouzima on the 17th.

Commune of Batna P. E. — The first hatching was observed on the 18th in the locality called Bouzourane.

Mixed Commune of Chateaudun - du - Rhumel. — From the 21st hatching occurred in the douars of Ouled-Bouhaouffane, Ouled-Haïf and Ouled-Larbi.

Commune of Oued-Seghin. — Some hatching was reported on the 24th at the camp of Télergma.

Commune of Chateaudun-du-Rhumel P.E. — Hatching on the 28th.

Commune of Tocqueville. — Some hatching on the 29th.

Mixed Commune of Aïn - M'lila. — Hatching on the 21st in the Achour douar.

Annex of Djelfa. — The first hatching took place on March 24 in the inter-communal sector Djelfa-Chellala.

Algeria : The Desert Locust (1).

A number of swarms of the desert locust (*Schistocerca gregaria*) were reported during March 1930 in the following communes or posts: — Khenchela, Ouled-Djellal, Laghouat, Aurès, Barika, Géryville, Aïn Touta, Nédromah, Beni-Ourif, Biskra, Djelfa, Saïda, Le Télagh, Bou-Saada, Aumale, Mecheria, Aflou, Sebdou, Marnia, Belezma, El-Aricha.

Eggs were laid in the region of Tolga (Biskra), Nédromah, Barika, Laghouat, Aurès, Djelfa.

Egypt : Movements of the Desert Locust (*Schistocerca gregaria*) (2).

During February, 1930 more swarms crossed the Eastern frontiers into Sinai, while others have been wandering in the Peninsula. In the earliest days of the month locusts attained sexual maturity and soon copulation and egglaying followed.

Sinai was the field of all operations and no locusts reached the Nile Valley.

Locusts destroyed. — In many cases the quantities of locusts destroyed by flame-throwers were not reported, nevertheless about 300 tons of locusts were destroyed so far. Work was hindered in many cases by strong winds, which prevailed, and by abundant rains.

New Campaign Organisation. — As mentioned in last month's report a more elaborate scheme of control came into being during the last week of February.

Practically the whole work is confined at present to Sinai. The co-operation of the Egyptian Frontiers Administration was found inevitable. The said Department was approached in this connection and the following scheme was laid down :—

(1) 2 motor car patrols and 9 camel patrols were formed. Each car patrol consisted of two 6 wheelers with four flame guns and the necessary petroleum, while the camel patrols carried 2 flame guns each.

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(1) Communication from the Gouvernement Général de l'Algérie to the International Institute of Agriculture.

(2) Communication from Mr. E. Ballard, Chief Plant Pathologist, Plant Protection Section, Ministry of Agriculture, Giza, Egypt to the International Institute of Agriculture.

(2) These were distributed in 9 different centres.

(3) All patrols except those engaged in fighting locusts are to be engaged in scouting.

(4) Arabs were called to scout their tribal areas and were given rewards not exceeding £ 5 each, while a further reward was promised for any one giving information leading to the discovery of a swarm of locusts or hoppers as well as for the location of areas in which eggs have been deposited. This step soon proved to be most useful and the Arabs reported many egg areas.

(5) Besides all the above mentioned patrols more were formed from the Sinai Police who were solely occupied in scouting.

(6) A senior officer from the F.D.A. was appointed to look after this organisation, which includes Sinai, the Canal Zone, part of Southern Palestine and Transjordania, together with a Technical advisor from the P.P.S. El Arish was to be the headquarters where a Locust Office was formed.

Combatting locusts in the Nile Valley, should an invasion take place, was solely in charge of the P.P.S. and a scheme for this work has already been laid down. Arrangements were made for the preparation of the necessary quantities of bran bait, both for Sinai and the Nile Valley, besides the concentration of sufficient supplies of certain sprays, such as pyrethrum soap and fish soap, which we intend to use in case any locusts arrive in the Nile Valley and settle in cultivations.

Locusts in Palestine and Transjordania and the Conference at Auja. — The locust situation in both these countries was similar to that in Egypt, if not worse.

For the benefit of both sides it was found advisable to hold a Conference and discuss the situation. This proposal was accepted and a Conference was held at Auja on the Frontiers on the 27th February, 1930 when representatives of both Governments came to the following conclusions :—

1) As the Palestine forces cannot operate in the area lying South of the line Auja-Kurnub-Zuweira, it was agreed that this part of the Desert should be taken over by the Egyptian Government. It is practically inaccessible by cars and only approachable by camels.

2) If necessary a joint base to be formed at Rafa on the frontiers.

3) Exchange of personnel, should the occasion arise, provided that both sides are not fully occupied at the time.

These suggestions are being actually carried out and camel patrols from the F.D.A. are at present scouting that part of Palestine and Transjordania.

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During March, 1930, Sinai was the field for all operations. Sexually mature locusts continued to roam about in the Peninsula. For sometime no more new locusts came from the East but on the 21st two big swarms crossed the Frontiers from Transjordania. One of them exceeded 17 kilometres in width. Immediately after arrival they split into smaller parties, reached the mature stage, and laid eggs in small patches over enormous areas. These two swarms were soon followed by others.

Until the end of March only one small swarm reached the Canal zone at El Murra. It flew West to Abu Seweir but soon returned to the East and on the 30th was destroyed S. E. of Ismalia.

Hatching began on the 7th in a small area at Feiran. Before the elapse of one week it occured in many localities and by the end of the month was general. The biggest swarm of hoppers was reported from Abu Zeneima on 19th moving East-wards in big masses.

On March 22nd swarms of dragon flies were reported from three different places near the sea, via Port-Said, Port Tewfik and Ghobbet el Bous flying towards the South. They were mistaken for locusts.

The same incident happened in the 1928 invasion.

Locusts, hoppers and eggs destroyed. — No exact figure could be given at present for any of these, yet the quantities of adult locusts destroyed until the end of March exceeded 500 tons. Hoppers were controlled in more than 70 areas, either by applying bait, trenching or by flame-guns. Many egg areas were marked, wherever possible they were ploughed, otherwise they were kept under close observation in order to kill the hoppers on hatching.

Campaign. — All steps taken soon proved to be quite fruitful and essential. Giving rewards to the Sheikhs and Arabs for scouting the desert and reporting egg areas gave excellent results.

Three important tours were made in and out of Sinai. The first was from El Arish to S. Sinai : Tor, Feiran, Abu Zeneima and Shatt. In all these places the Sheikhs of tribes and Government guards were met. Many swarms and egg areas were found. Hatching was reported from Feiran, this being the earlier one in the Peninsula.

The course taken in the other tour was from Shatt (Suez) to : Tor, the monastery, Akaba and then to Wadi Araba (N. E. of Akaba). This place was found swarming with locusts.

The third journey was longer and more important ; it covered a large part of S. Palastine and Transjordania. Here the locusts were found practically everywhere in overwhelming numbers. All were sexually mature, some copulating but the majority moving either W. or N. West.

These warnings necessitated more precautions. More personnel, cars and equipment were ordered to El Arish. The Government workshops in Cairo were fully occupied in preparing large numbers of flame-guns which proved to be of great value in combatting locusts in desert regions.

Although no locusts, except a small swarm, reached the Nile valley yet it was found advisable to be on the guard. The different locust control centres in the Delta and the Nile valley were reinforced by more staff and equipment.

Everything shows that a very different situation exists. Much remains to be done in the Sinai. If the influx of fresh swarms coming from the East will not abate soon then the Nile valley will be threatened by a strong invasion.

'Iraq : Report on the Campaign against Moroccan Locust (*Dociostaurus maroccanus*) in 1929 (1).

As soon as the flying locust started laying eggs during May & June, 1928, breeding areas were marked, and notes made of their location and extention. The estimated areas so located totalled 53242 donums (13410.5 hectares). These were located in the following Northern Liwas : — Mosul, Arbil, Kirkuk, Sulaimani, Diala.

At the time the 1929 outbreak occurred the staff stood as follows :— 1 Chief Locust Officer, 4 Assistant Locust Officers, 25 Locust Inspectors, 31 Qolchies, 20 Ford Drivers, 20 Assistant Drivers, besides menials, and mixing supervisors.

The equipment consisted of : — 32373 issues of poison bait, 14135 tins of sodium arsenite of 5 lbs. each, 15978 gallons of fuel oil, 20 Ford lorries (12 of

(1) Communication from the official correspondent of the Institute, Mr. J. F. Webster, B. A., Inspector-General of Agriculture, Baghdad, 'Iraq.

which fitted with sprayers), 4000 hand pumps ; 77 secondary centres were established and were equipped with the necessary materials before the outbreak.

The following methods of control were used :—

(*a*) Poison bait: — Each issue of poison bait consisted of :— 75 lbs. of bran, 10 lbs. of molasses (made of dates), 5 lbs. of sodium arsenite, and an amount of water enough to mix the ingredients.

This was found very successful for locust from the 2nd stage to the flying stage. Altogether 18334 issues were used during the campaign.

(*b*) Poison solution: — This solution was prepared as follows :— 300 gallons water, 25 lbs. sodium arsenite.

The solution was sprayed either by the specially fitted lorry sprayers when it was possible, or by hand pumps where roads were non-existent and the country impassable for cars.

This method was found very successful for young locust up to the 2nd stage. In later stages mortality decreases. 300 gallons of poison solution was found to spray a belt of 1 ½-2 miles in length and 20ft. in width.

(*c*) Fuel oil: — Spraying with fuel oil as a contact poison is a highly efficient method in all stages. Where fuel oil was available on the spot it was largely used.

(*d*) Ploughing: — The ploughing of areas infested with locust eggs during January and February kills about 20-50 % of the locust egg depending on the quality of the ploughing and also on the presence of birds. Althogether 8014 donums (2003.5 hectars) of infested areas were ploughed during the season. Furthermore ploughed land is not favoured by locusts for laying eggs in the following season.

(*e*) Natural enemies: — The beetle *Trichodes laminatus* and the fly *Thyridanthrax* sp. attacked the locust eggs in their larval stage, and did a valuable service. Of the birds the cream coloured courser, and starlings feed on locust eggs. There are other birds such as storks that feed on locust in their early stages.

Damage to crops from swarms of hoppers was almost nil, while flying locust have caused a small amount of damage to summer crops.

Morocco (French Protectorate of): The Desert Locust (1).

Swarms of the desert locust (*Schistocerca gregaria*) were reported during March 1930 at Berkane, El Aïoun, Sidi-Mellouch and Berguent.

Egg laying took place in the plain of the Triffas (Berkane).

Nigeria : Locusts Swarms (2).

Early in December 1929, large swarms of locusts were reported at Agege about 14 miles north of Lagos, some damage was done to Late Maize, in mid-December locusts damaged Maize, Popondo beans and Bamboo near Ondo. From mid-December, 1929 to the end of February, 1930 swarms have been seen in many localities in the west of the Southern Provinces and in the Ilorin, Benue and Niger Provinces in the north. The direction of flight has been variable ; in December there was a tendency to move northwards and in the following month most of the swarms travelled to south-east or south-west. No damage to crops has been reported since

(1) Communication from the Gouvernement Général de l'Algérie to the International Institute of Agriculture.

(2) Communication from the official correspondent of the Institute, Mr. F. D. Golding, M. A., F. E. S., Senior Entomologist, Agricultural Department, Ilorin, Nigeria.

December, there is little food for the swarms at this time of the year. A report has just been received that breeding has commenced in one locality, this has not yet been verified.

A circular has been sent to all Residents in charge of Provinces asking them to telegraph the news to the headquarters of the Agricultural Department if any sign of breeding is observed.

The specimens obtained at Ilorin and Ibadan are *Locusta migratoria migratorioides*, R. & F.

Rumania : Locust Invasion (1).

The invasion of the migratory locust (*Locusta migratoria* L.) was very serious in 1929 and more extensive than had been observed for three years.

In the Danube delta there were two principal breeding grounds, one in the north in the islands Letea, Babina, and Chilia Veche, the other to the south in the islands Ivancea and Rosu between the two arms of the Danube, Sulina and Saint George.

The locusts from the south (Ivancea and Rosu) took three directions. One part went northwards in the direction of the town of Sulina and was destroyed there by the marines as soon as it emerged from the reeds..

The second swarm after leaving the breeding ground took a north-westerly direction. As soon as the hoppers reached Caraorman Island the inhabitants dug pits in their path, into which they fell. The third swarm, which was the largest, went in a southerly direction. It became divided into two parts, one of which went towards the village of St. George (Sărăturilor Island), while the other went towards the St. George arm of the Danube, crossing the reed beds without passing over dry land.

The Sărăturilor Island swarm advanced on a front of 1 $^1/_2$ km at a speed of 100 m an hour ; its movement started at about 9 o'clock in the morning, during the middle of the day the speed increased and stopped in the afternoon.

Pits 1 m. in width and 0.6 m. in depth were dug to stop the swarms. The earth removed was heaped up on the side furthest from the direction of arrival of the locusts. The pits could not be dug more than 20 cm. apart. The hoppers easily crossed large pools which were encountered in some places by swimming. It was thus necessary to dig 3 or 4 parallel trenches, which were filled in as soon as they were full of hoppers.

The swarm which crossed the reed beds towards the south reached the arm of the Danube. One part swam across the river, while the other, the larger part, was carried away downstream by the current and came to land in a compact mass on the tongue of land between the village of St. George and the sea. The distance travelled in the water, which was estimated at from 6 to 10 km, so enfeebled the hoppers that when they landed they could scarcely move.

Some hoppers which were carried out to sea by the current were reported by fishermen to have been found alive on the corks of their fishing tackle at 15 km. from land.

The hoppers were captured in as large quantities as possible while swimming with fishing nets. To give an idea of the quantities in the water it may be stated that 32 cu. m. of hoppers were killed in 3 hours.

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(1) Communication from the official correspondent of the Institute, Mr. Wilhelm K. KNECHTEL, Bucharest.

Trenches were used to combat the hoppers because in view of the state of the ground and vegetation and the lack of apparatus and the need for quick action this method seemed the most suitable.

In the region of St. George 25 km. of trenches were dug and, according to the estimates, 200 tons of hoppers destroyed.

A great quantity however remained in the reed beds where they could not be reached. Also from 2 July adult locusts were observed, specially in the middle of the day, flying above the extensive reed beds of the region. Their movements were without order and no definite direction could be recognised. Towards 15 July it was observed that their flight was in a southerly direction and later, owing to the direction of the wind, towards the west.

In the Danube delta the swarms took the following general directions :— Those from the St. George region flew west and chose Mahmudia, Morughiol, Dunavăti and Sarinasuf as their breeding grounds. Those in the island of Letea in the north of the delta flew partly towards the interior of the island and partly across the Danube, and deposited eggs to the north and east of Vălcov. Those from Chilia Veche and Babina Island flew towards the mainland and occcupied two regions — one from the eastern shore of the lake of Catlapug to the Commune of Fantână Zănelor with its centre round the lake of Chitaj, and the other in the direction of Caramahmet-Cişmea and to the north as far as the first villages of the Celatea Albă district.

The eggs were laid in cultivated ground so were destroyed by ploughing. Official measures have been taken to destroy the hoppers as soon as they are hatched in the spring.

Tasmania : Plant Pests (1).

The European Collembolan *Sminthurus viridis* has lately made its appearance in Tasmania and is doing some damage to clovers, particularly subterranean clover. It was introduced in the egg stage with subterranean clover seed from South Australia, where it has been known for about 40 years. Some experiments have shown that the best and cheapest remedy for it is spraying with lime-sulphur solution (1 in 60), with a little flour paste added as a sticker and spreader.

Some damage has been done in the South of the Island by a red-legged mite belonging to the genus *Notophallus*, which appears to be identical with *Notophallus bicolor*.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

French Equatorial Africa. — See France.

French West Africa. — See France.

Austria (Republic of). — By Decree No. 25 of 9 January 1930 of the Federal Minister of Agriculture and Forests in co-operation with the Minister of Finance, which came into force on 1 February 1930, the following regulations, based on § 2 of the Federal Law No. 5 of 20 December 1929 (see this *Bulletin*, Year IV, 1930, No. 5, p. 72) concerning protection against wart disease (" Kartoffelkrebs ",

(1) Communication from the official correspondent of the Institute, Mr. H. M. Nicholls, Microbiologist, Department of Agriculture, Hobart, Tasmania.

Synchytrium endobioticum) during the importation and transit of potatoes, have been laid down :—

(1) The importation and transit of fresh potatoes, potato pealings and waste, and sacks and other packings which have been used for their transport and protection are prohibited.

(2) This veto does not apply to the importation by rail of fresh potatoes coming from States free from wart disease or from countries (Colonies) or islands which, though forming part of a State not free from wart disease, being isolated and separated from their mother country, are free from wart disease. Such importation is, however, permitted only if the Government of the State in question has each year, at the latest at the end of the preceding year, certified to the Federal Government of Austria that as far as it is aware the whole territory of the State and of the countries (Colonies) or islands dependent on it are free from wart disease. The Government must also deliver a list of the official plant protection stations and organisations authorised to issue phytosanitary certificates. The list of States, countries and islands from which the importation of potatoes by rail is allowed will be published annually in January in the official organ by the Minister of Agriculture and Forests.

Moreover any consignment of wagons or cases containing potatoes intended for importation into Federal territory must on arrival at the frontier be accompanied by a certificate of health and provenance conforming to the model annexed to the present Decree. Potatoes in transport must be enclosed and sealed ; the delivery notes must include duplicate copies of the health and provenance certificate, written in the language of the exporting country as well as in German ; if the consignment consists of several waggons a certificate must be delivered for each separate waggon.

(3) The importation by boat of fresh potatoes from countries free from wart disease may be allowed by the Federal Minister of Agriculture and Forests on condition that the necessary regulations, which will be fixed in each case, are adhered to.

(4) The importation into Federal territory of potatoes from countries not free from wart disease is forbidden except when they are intended for planting. In general the importation of choice seed potatoes or of guaranteed selected seed only is permitted. Any consignment of such seed potatoes must be accompanied on arrival at the frontier by a certificate of health and provenance and another certifying that the potatoes are fit for planting.

(5) The importation of fresh potatoes which, although coming from countries free from wart disease, must in order to reach Federal territory traverse other countries which are not free from wart disease, is permitted if the potatoes are contained in covered and sealed wagons or in closed packing cases which are in good repair and sealed.

(6) Any importation of fresh potatoes from countries free or not free from wart disease other than by rail or boat is, except in special cases, forbidden.

(7) Consignments of fresh potatoes not conforming with the regulations of the present Decree may not be transported into the interior of the country.

(8) The Ministry of Agriculture and Forests reserves the right to inspect consignments of fresh potatoes before their admission even if all the prescribed documents have been supplied. If such consignments are found to be contaminated or susceptible of being contaminated with wart disease they may not be transported to the interior of the country.

(9) The transit of fresh potatoes by rail through Federal territory is allowed if the consignment is accompanied by delivery notes addressed directly from one

foreign country to another and if it is effected in covered and sealed waggons or in closed packing cases in a good state of repair.

(10) The Minister of Agriculture and Forests may with the necessary precautions allow exceptions to the regulations of the present Decree if it is certain that the importation or transit thus authorised entails no risk of importing wart disease.

(11) All countries except Germany, Belgium, Denmark, France, Great Britain and Ireland, the Netherlands, Poland, Switzerland and Czechoslovakia will be considered free from wart disease until the publication of the list of the countries free from wart disease, and from them the importation of fresh potatoes will be permitted.

(12) The present Decree concerns Decree No. 206 of 15 June 1929 (see this *Bulletin*, Year IV, 1930, No. 1, p. 9) only as regards the articles referring to fresh potatoes. The prescriptions contained in those articles remain in force side by side with those of the present Decree in so far as they are compatible with them. Thus the importation of fresh potatoes from France into Federal territory or their transit through such territory will be allowed only if all the regulations fixed by the two Decrees are followed. (*Bundesgesetzblatt für die Republik Österreich*, Wien, 18. Jänner 1930, Jahrg. 1930, 6. Stück, S. 67-71).

French Colonies. — See France.

Spain. — By Royal Decree No. 2,663 of 27 December 1929 the Forest Phytopathological Services are transferred to form part of the "Instituto forestal de Investigaciones y Experiencias", under the title of the Phytopathological Section. (*Gaceta de Madrid*, Madrid, 28 diciembre 1929, año CCLXVIII, tomo IV, núm. 362, pág. 1974 y 1975).

French Settlements in Oceania. — See France.

France. — By Decree of 3 December 1929 the Minister for the Colonies in view of the need for protecting sugar cane in the French Colonies against plant and animal parasites, in particular 'mosaic' and 'Fiji disease', provides as follows :—

Art. 1. — In the French Colonies other than Indochina the importation, circulation, storage and transit of plants, sets or seeds of sugar cane from whatever source are prohibited.

Art. 2. — Modifications may be allowed in exceptional cases by decision of the Minister for the Colonies for the introduction into the French Colonies of a small number of plants or sets freed from leaves and leaf sheaths also of seeds of sugar cane from any country subject to certain conditions fixed by the Minister with regard to importation and to the quantities and varieties of plants, sets or seeds the importation of which is authorised.

Such exceptions may be granted only for plants or sets the introduction of which is regarded as of genuine technical or economic advantage.

Any consignment of plants, sets or seeds admitted for importation in virtue of a Ministerial modification must be officially consigned, expenses to be charged to the importer.

Authorisation for importation, circulation, storage or transit in the French Colonies may be granted only by one of the Customs Offices specified for each Colony by a Decree from the local administration and is finally accorded only after an inspection by an official appointed by the Governor has shown the products to be of healthy appearance and free from any parasite.

Any consignment which is suspect will, at the owner's expense, be immediately returned or confiscated and burnt.

Any consignment which is admitted will be taken charge of by the local Agricultural Service which will undertake the cultivation of the plants or sets and will keep them under observation as long as necessary, that is for a minimum of three months.

Plants found to be healthy will be delivered ; any plant found to be diseased will be burnt without any compensation being payable to the importer.

Art. 3. — Any infringement of the regulations of the present Ministerial Decree will be punishable under the provisions of Arts. 3, 4, 5 and 6 of the Decree of 6 May 1913 concerning the introduction of plants into the French Colonies.

Art. 4. — The Ministerial Decrees of 17 May 1921, of 16 August 1922 and of 5 May 1924, together with any regulations contrary to the present Decree, are herewith annulled. (*Journal Officiel de la République Française*, Paris, 8 décembre 1929, LXI[ème] année, n° 287, p. 13199).

*** By Decree of 3 December 1929, concerning the protection of cacao plantations in the French Colonies, the Minister for the Colonies provides as follows :

Art. 1. — In the French Colonies specified in Art. 7 of this Ministerial Decree the importation, circulation, storage and transit are prohibited of cacao plants coming either from countries where the presence of the disease known as witches' broom (' balai de sorcière ') and attributed to *Marasmius perniciosus* has been proved or from any country where the importation of such plants is not prohibited or submitted to phytopathological control.

Art. 2. — In the French Colonies listed in Art. 7 of this Ministerial Decree the importation, circulation, storage and transit of cacao plants from any provenance other than those specified in Art. 1 above may be authorised only on the presentation of a certificate issued by the competent authority of the country of origin to the effect that such plants were not taken from a region where the witches' broom disease is known to occur nor from a country where the importation of such plants is not prohibited or submitted to phytopathological control.

Such a certficate is valid only if it is indorsed by the Governor General, the Governor, the Chief Resident or by their deputies, when it concerns the French Colonies enumerated in Art. 7 ; by the Governor General, the General Residents or their deputies for Algeria, Tunisia and Morocco ; and by the Consuls, Vice-Consuls or Consular Agents of the French Republic for foreign countries.

Art. 3. — Any plants presented for importation into the French Colonies enumerated in Art. 7 of this Ministerial Decree and not conforming to the conditions laid down in Arts. 1 and 2 above, will at the owner's expense be immediately returned or confiscated and burnt.

The same applies to any such plants for which the importer fails to submit a valid certificate of origin.

Art. 4. — For cacao plants presented for importation accompanied by the certificate specified in Art. 2 above, authorisation for importation, circulation, storage or transit in the French Colonies enumerated in Art. 7 may be granted only by a Customs Office designated for each Colony by Decree of the local administration and is finally given only after inspection by the official nominated by the Governor shows that the products are of healthy appearance and free from the parasite to which this Ministerial Decree refers.

Any consignment which is not free from suspicion is, at the owner's expense, immediately returned or confiscated and burnt.

Art. 5. — For the introduction into the French Colonies of consignments of cacao plants originating from one of the contaminated countries enumerated in Art. 7 or from a region where the importation of such plants is not prohibited or submitted to phytopathological control, modifications may be accorded in exceptional cases by a decision of the Minister for the Colonies fixing the conditions of importation and specifying the quantities and varieties of plants the importation of which is authorised.

Such exceptions may be accorded only for plants the importation of which is considered to be of genuine practical or economic advantage.

Any consignment of plants admitted for importation in virtue of a Ministerial modification may be only officially consigned, the expense to be charged to the importer, and must be accompanied by a phytopathological certificate stating that the plants are free from disease.

Such plants will be taken in charge by the local Agricultural Service which will cultivate them and keep them under observation for two months. Plants found to be healthy will be delivered. Any plant found to be diseased will be burnt, no compensation being payable to the importer.

Art. 6. — The same regulations apply to pods and fresh seeds of cacao.

Art. 7. — The provisions of the present Ministerial Decree are applicable to plants, pods and seeds of cacao presented for importation into and transit in the following French Colonies: — Guiana, Martinique, Guadeloupe, French West Africa and French Equatorial Africa, Madagascar and its Dependencies, Réunion, New Caledonia, New Hebrides and the French Settlements in Oceania.

The prohibitory regulations contained in Art. 1 of the present Ministerial Decree are applicable to the products specified coming from South America, Central America and Trinidad.

These lists will be corrected by Decrees of the Minister for the Colonies in case of further countries becoming contaminated.

Art. 8. — Any infringement of the regulations of the present Ministerial Decree will be punishable, in conformity with the provisions of Arts. 3, 4, 5 and 6 of the Decree of 6 May 1913, concerning the introduction of plants into the French Colonies.

Art. 9. — Any regulations contrary to the present Ministerial Decree are herewith annulled. (*Journal Officiel de la République Française*, Paris, 8 décembre 1929, LXI[ème] année, n° 287, p. 13199).

Guadeloupe. — See France.

French Guiana. — See France.

Italy. — By Ministerial Decree of 1 February 1930 the Commune of Monticiano in the province of Siena has been declared infected with grape phylloxera. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 8 marzo 1930, anno 71°, n. 56, p. 895).

*** The Ministry of Agriculture and Forests has published a list of the Communes (as administrative units) declared to be infected with, or suspected of infection with, grape phylloxera up to 31 December 1929, from whose territory the exportation of certain plant products is prohibited in conformity with Regulation No. 1099 of 13 June 1918 and Royal Decree No. 1751 of 14 November 1920. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 1930, anno II, n. 1, pp. 80-106).

Madagascar and its Dependencies. — See France.

Martinique. — See France.

New Caledonia. — See France.

New Zealand. — By special order made by the Hawke's Bay County Council on the 11 November, 1929 and published by the Minister of Agriculture on the 11th February, 1930 (Notice No. Ag. 2886) African Boxthorn (*Lycium horridum*) is declared to be a noxious weed in the said County. (*The New Zealand Gazette*, Wellington, February 13, 1930, Numb. 11, p. 407).

New Hebrides. — See France.

Réunion. — See France.

Southern Rhodesia. — By Government Notice No. 744 of 27th December 1929, the importation into Southern Rhodesia of citrus trees, or any part thereof, includng fruit, seed, seedling trees, cuttings, branches, leaves and budwood, is prohibited, except as provided bereunder :—

1. Citrus fruit may be imported without restriction from Northern Rhodesia and Nyasaland, provided it is the product of these countries.

2. The importation of citrus trees, including budwood or other part for propagation, shall be limited to introductions made under special permit from the Minister of Agriculture and Lands, Salisbury, who may grant or withhold such permit at his discretion, and may attach such conditions to the importation as he shall deem desirable.

3. Permits shall only be granted under section 2 in respect to special varieties or strains which.

(1) are not procurable in Southern Rhodesia ; and

(2) are judged likely to be of benefit to citrus culture if introduced to the Colony.

The decision of the Minister in respect to the foregoing shall be final.

4. Conditions attached to permits granted under section 2 shall include the following :—

(a) The consignment shall be accompanied by a certificate signed by a responsible official of the Plant Regulatory Service or other recognised institution in the country concerned, to the effect that the nursery or plantation from which the trees, budwood or other parts were taken was adequately inspected at a date not more than three calendar months prior to despatch of the consignment and was apparently free at that time from serious insect pests and plant diseases, with special reference to the disease known as citrus canker (*Pseudomonas citri*).

The certificate shall also state that citrus canker is not known to have occurred at any time within one hundred miles of the said nursery or plantation.

(b) In the case of importations from the Union of South Africa, permits shall not be issued in respect to nurseries and plantations outside the provinces of the Cape Colony and Natal.

(c) Citrus trees, including budwood or other part for propagation, when imported shall be planted or propagated only in an isolated situation, approved by a qualified officer of the Department of Agriculture, and shall be kept in quarantine with due supervision for a minimum period of three years.

(d) The period of quarantine shall be terminable after three years at the discretion of the Minister.

(e) Unauthorised removal from the quarantine area of citrus trees or any part thereof, including budwood, fruit, seed, cuttings, branches and leaves, during the

period of quarantine shall constitute an offence and shall render the whole of the trees under quarantine liable to immediate destruction.

5. Transit through Southern Rhodesia of citrus trees, fruit, budwood and other parts for propagation is permitted, provided that, in the case of trees and parts for propagation, a certified copy of the permit to import the said trees or parts into the country to which they are consigned is received at least two weeks in advance by the Secretary, Department of Agriculture, Salisbury, and, furthermore, that the importation is not inconsistent with the intention of the foregoing regulations.

6. Any person contravening these regulations shall be liable on conviction to a fine not exceeding £ 10. (*The Rhodesia Agricultural Journal*, Issued by Authority of the Minister of Agriculture and Lands, Salisbury, Rhodesia, 1930, Vol. XXVII, No. 2, pp. 184-185).

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NOTES

First International Congress of Microbiology. — This Congress organized by the International Society of Microbiology is to be held at Paris from July 20 to 26, 1930. The third Section of Congress is devoted to Botany and Parasitology.

International Competition for a Method of Controlling the Root Rot of Citrus Plants. — The " Camera Agrumaria " at Messina, Italy, has thrown open to all nationalities a competition with a prize of 50 000 liras to be awarded to whoever shall discover a genuinely effective and praticable method of controlling the dispersion of and the damage caused by the root rot (' marciume radicale ') of citrus plants.

Prof. ALESSANDRO BRIZI, *Segretario generale dell'Istituto, Direttore responsabile.*

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